



These slides show some of the main steps taken during a typical DCATT control experiment using the SSC configuration

The experiment starts with an aberrated optical system and ends with the aberrations removed by action of the DM

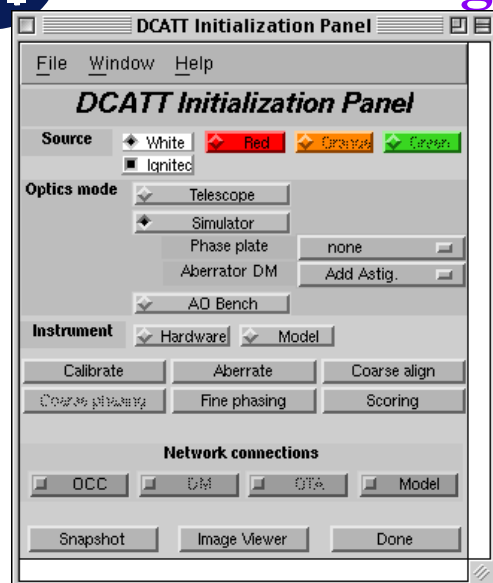


WF Sensing and Control Example

Next Generation Space Telescope

NGST

A NASA
Origins
Mission



Upon invoking the DCATT control software, this "Init panel" appears

It provides access to all DCATT WFC functions, either in hardware or simulation

Press "Fine phasing" to start



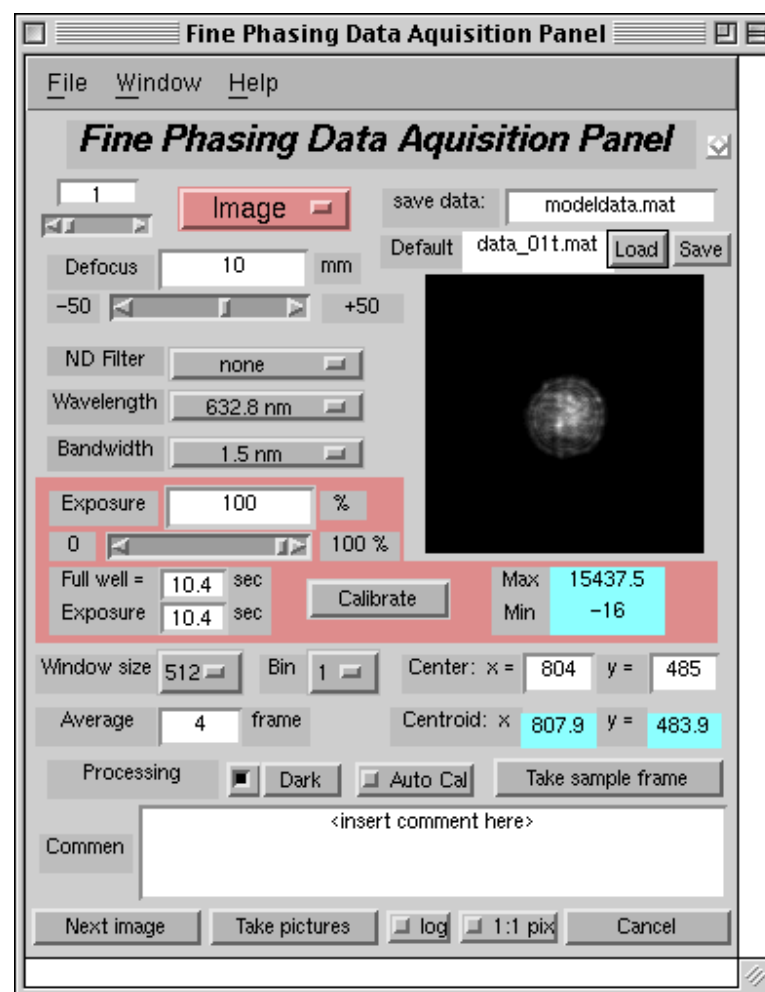
This brings up the "Fine phasing" panel

Press "Data Acquisition"

This brings up the Data Acquisition panel

Use the Data Acquisition panel to specify wavelength filter, exposure time, defocus, other parameters for each of 4 focal-plane images and 1 pupil image

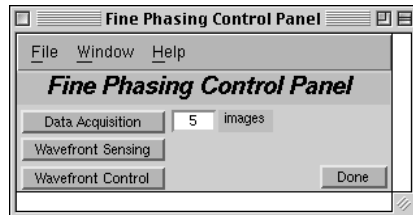
Then press "Take pictures"





WF Sensing and Control Example (cont.)

This returns you to the Fine Phasing panel



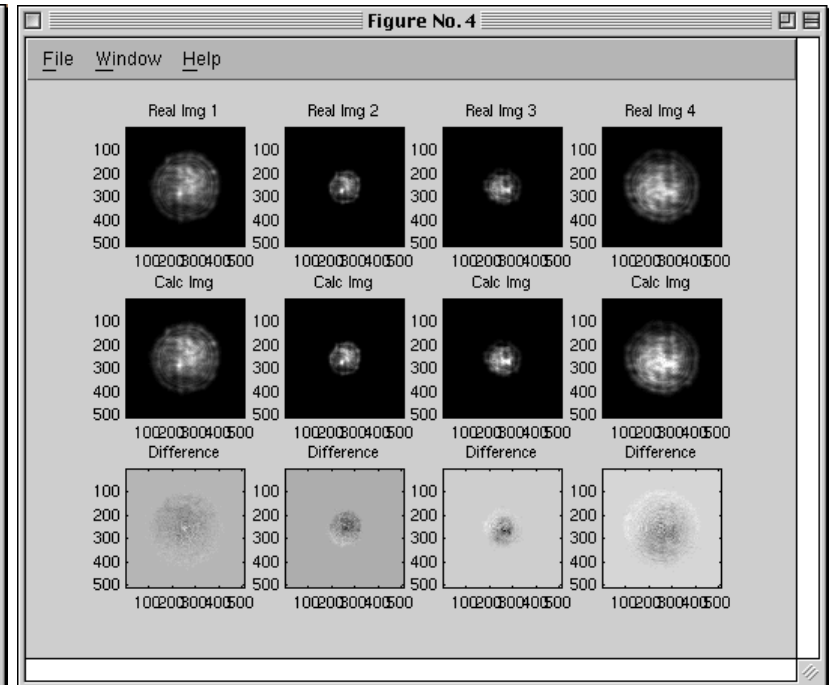
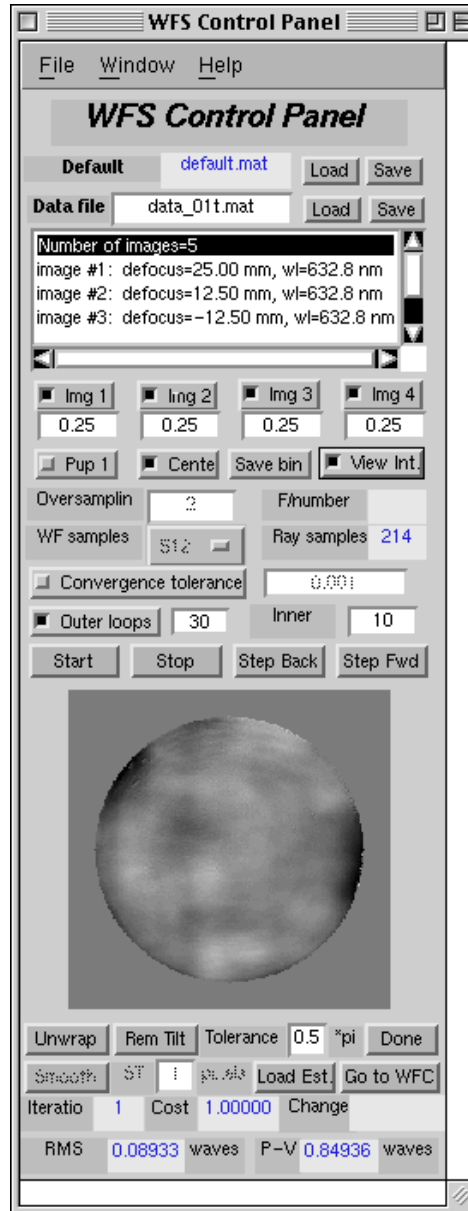
Now press "Wavefront Sensing"

This brings up the Wavefront Sensing panel

Select number of images to process, relative weights, other parameters, then press "Start"

The evolving WF estimate is displayed in the panel, and the data, the estimated data, and the difference frames are displayed in the Intermediate Results window

When converged, press "Go to WFC"



This is the Intermediate Results window



WF Sensing and Control Example (cont.)

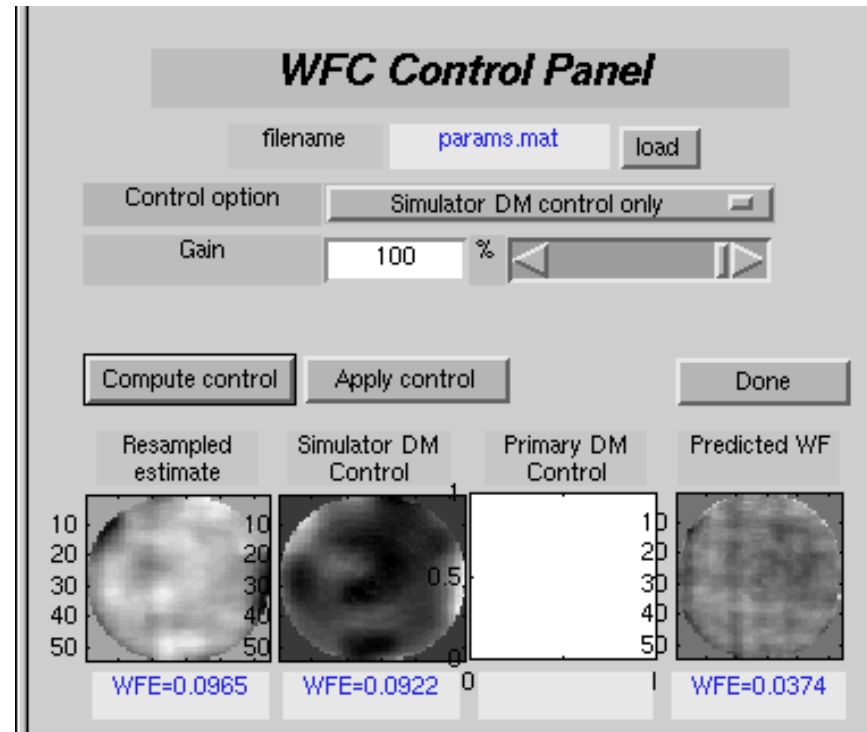
This brings up the Wavefront Control panel

Select "Control option" from choice of Simulator DM, AO Bench DM, Segments, and various combinations

Select "Gain" value to damp control step size

Select "Compute control" to compute new actuator steps and display "Predicted WF"

When control is to your liking, press "Apply control" to send commands to the hardware



After implementing this new control, the "Init" panel reappears and the process may be repeated